

An Uncommon Option for Surviving Bariatric Surgery: Regaining Weight!

To the Editor:

In November 2011, a 32-year-old woman was admitted to the intensive care unit for acute respiratory failure. She had felt well consistently until February (including 2 pregnancies), when she underwent a noncomplicated sleeve gastrectomy for obesity (body mass index, 47 kg/m²). Her weight gain, unrelated to any endocrine disease, had started with adolescence and was resistant to all attempts to lose weight. One month after bariatric surgery and a loss of 20 kg, she had a first episode of constant and diffuse abdominal pain with slightly increased plasma concentration of lipase, and pancreatitis was diagnosed. Recurrent monthly vomiting episodes occurred later with abdominal and leg pains unrelated to her menstrual cycle. To counter postoperative deficiencies, she was fully supplemented with all vitamins. She had been treated regularly with analgesic drugs in an attempt to relieve erratic pain. Three weeks before admission, leg pains intensified, and tetraparesis developed over 2 days. On admission (6 months after surgery), her body mass index was 21 kg/m² and heart rate was 135 beats/min. She had tetraparesis with diffuse allodynia and paresthesias, facial diplegia, and swallowing disorders with alveolar hypoventilation requiring mechanical ventilation.

Laboratory test results showed hypokalemia (2.6 mmol/L), hyponatremia (134 mmol/L), and moderately elevated liver enzymes (alanine aminotransferase 79 UI/L and aspartate aminotransferase 47 UI/L) without cholestasis. Renal function, blood counts, hemostasis, and Lyme serology were normal, as well as dosages of vitamins. Repeated cerebrospinal fluid examinations showed normal protein concentration without cells. Electromyography was compatible with severe motor axonal polyneuropathy. Magnetic resonance imaging showed focal cervical hyperintensity compatible with myelitis. Electroencephalography was normal.

Supportive care was given, and immunoglobulins were infused to treat a possible Guillain-Barre syndrome. No improvement was noted during the first few days.

Given the history of recurrent abdominal pain and neurologic disorders, and despite an absence of photosensible pigmenturia, a urine examination revealed porphobilinogen more than 100 times the upper normal range (335 μmol/mmol of creatinine) and 5-aminolaevulinic acid (290 μmol/mmol of creatinine); normal values returned after the patient had been infused with heme arginate (250 mg/d for 8 days) and had received a carbohydrate-rich diet. On the basis of urine, fecal, and plasma porphyrin concentrations, hereditary coproporphyrin was diagnosed. Despite a rapid decrease of porphobilinogen and 5-aminolaevulinic acid in urine, only a small improvement of motor skills occurred in 3 weeks. Significant neuropathic pain requiring overnight profound anesthesia and the need for mechanical ventilation necessitated prolonged intensive care unit stay. Full neurologic recovery is not expected for months.¹

Acute hepatic porphyrias are a group of 3 panethnic inherited metabolic disorders of heme biosynthesis.² The disease has been reported once after gastric bypass in another type of acute hepatic porphyria,⁴ but in our patient the acute attack was revealed after sleeve gastrectomy. Bariatric surgery-induced weight loss impairs liver energy metabolism and causes chronic carbohydrate deficiency, which leads to an upregulation of the hepatic enzyme 5-aminolaevulinic acid synthetase 1 for heme synthesis.³

Compared with other bariatric surgery methods, sleeve gastrectomy is irreversible. To recover, our patient will require adequate caloric intake including carbohydrates, which will increase her weight mandatorily.

This case illustrates porphyria symptoms, including mental disturbances, recurrent abdominal pain, and life-threatening neurologic symptoms. It also suggests that this disease can be precipitated by acute weight loss subsequent to bariatric surgery, and therefore should be registered as a clear contraindication to this approach for obesity reduction. It would be well to keep in mind that unexpected neurologic signs occurring after bariatric surgery can be related to this rare genetic disorder.

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